

## Chapter 5

### A Mobilized College

WORLD WAR II brought unprecedented demands upon higher education for service to the nation. The global struggle, dwarfing in size, intensity, and complexity all previous involvements, gave a supreme testing of the resourcefulness and adaptability of instructional and research facilities and personnel. As in past wars, the colleges were alert to the national crisis. The critical problem for institutions was to mobilize their plants and staff and maintain their academic status and function. With the declaration of limited emergency in September, 1939, and the selective service act the following year the situation of higher education became increasingly unsettled and precarious. As I. L. Kandel has observed: "The story of the relationship between the Federal government and the institutions of higher education in the country in the years immediately preceding and during the war is one of confusion and uncertainty."

In August, 1940, the American Council on Education, organized in the previous war as a coordinating agency for higher education, in conjunction with the N. E. A. created a National Council on Education and Defense with representatives from sixty national organizations. This body met with the office of education and subsequently the council appointed a special committee on federal relationships. A proposal to train selected groups of students on a civilian basis was not acceptable to the war manpower commission and the ultimate adjustment was the use of approved institutions for training selected corps by the army and navy. In the end, fewer than half the degree-giving institutions were selected, or a third counting junior colleges. Naturally choice was made of those equipped to give the technical work sought and with available facilities for housing and feeding large groups.

The land-grant institutions, as public establishments with highly developed programs of technological instruction and research, were strategically available as war training centers. The pre-war meetings of the land-grant college association (1940-1941) were devoted to the theme of preparedness, and those of the war years to the immediate emergency and post-war adjustments.

There was disappointment, and in some instances resentment, that the ROTC was dropped without consultation with college authorities. But however abrupt the change, the emergency necessitated a wider and speedier basis of officer training than the regular collegiate system provided. It was a considerable concession to utilize, to varying degrees, all of the land-grant institutions.

Among such institutions Iowa State College was in the forefront in awareness of the crisis, preparation for it, and

full participation in it. From the late 1930's the campus was steadily alerted to the international scene. College lectures and broadcasts by diplomatic, economic, and military authorities brought the realities of the axis imperialistic foreign policy. General forums and student discussion groups increasingly centered on the world scene, especially after the renewal of European hostilities. In the summer of 1940 the president announced that this institution, consonant with other land-grant colleges, had offered to the "appropriate authorities in the federal government full cooperation in measures looking toward national defense." Various courses were directed to preparation for defense training and information. The social science departments broadcast series of talks on economic, political, and historical aspects of the crisis. The Agricultural Extension Service presciently conducted a program of increasing production from 1939, while the surplus was still regarded as a menace. One week before Pearl Harbor, a faculty committee on education for defense made an extended report on existing activities with suggestions for additional and extended projects.

#### ► SOLID SUPPORT

Campus opinion reflected in the main that of the nation and region; while at times quite vociferous, isolationist and pacifist agitators became a rapidly dwindling minority as the realities of the crisis became evident. They were dispelled completely by the fateful sabbath explosion, Dec. 7, 1941.

Precipitation into war brought inevitable confusion and uncertainty as to military status of students and younger staff members, and as to the wartime organization and functioning of the College. The delays and conflicting rumors

from Washington added greatly to the unrest. Gradually a measure of order and stability emerged. Students were advised to stay in college until called. Mass meetings addressed by the state adjutant general and the commandant of the ROTC interpreted the service regulations as fast as they came from the Pentagon. The president appointed a college defense committee headed by Dean T. R. Agg, of Engineering, to have general supervision of training programs. As a quick orientation to war issues the Science division organized a cooperative lecture course on "the citizen and the world crises," open to all students with or without credit, for the winter and spring quarters of 1942. The opportune visit of Wendell Willkie to the campus enabled him to inaugurate the course with a brief, characteristically stirring appeal.

The College entered upon special war training programs as soon as contracts could be negotiated and the trainees brought to the campus. In June, 1942, a non-collegiate naval training school was organized for three groups of specialists — electricians, diesel firemen, and cooks and bakers — to which was later added amphibious firemen. The school was housed in Friley Hall which was given the time schedule and appointments of a ship. The course for the electricians and cooks and bakers was sixteen weeks, that for the diesel trainees eight weeks, and for the amphibious firemen five weeks. By the closing of the program in December, 1944, more than twelve thousand had been trained in these various skills.

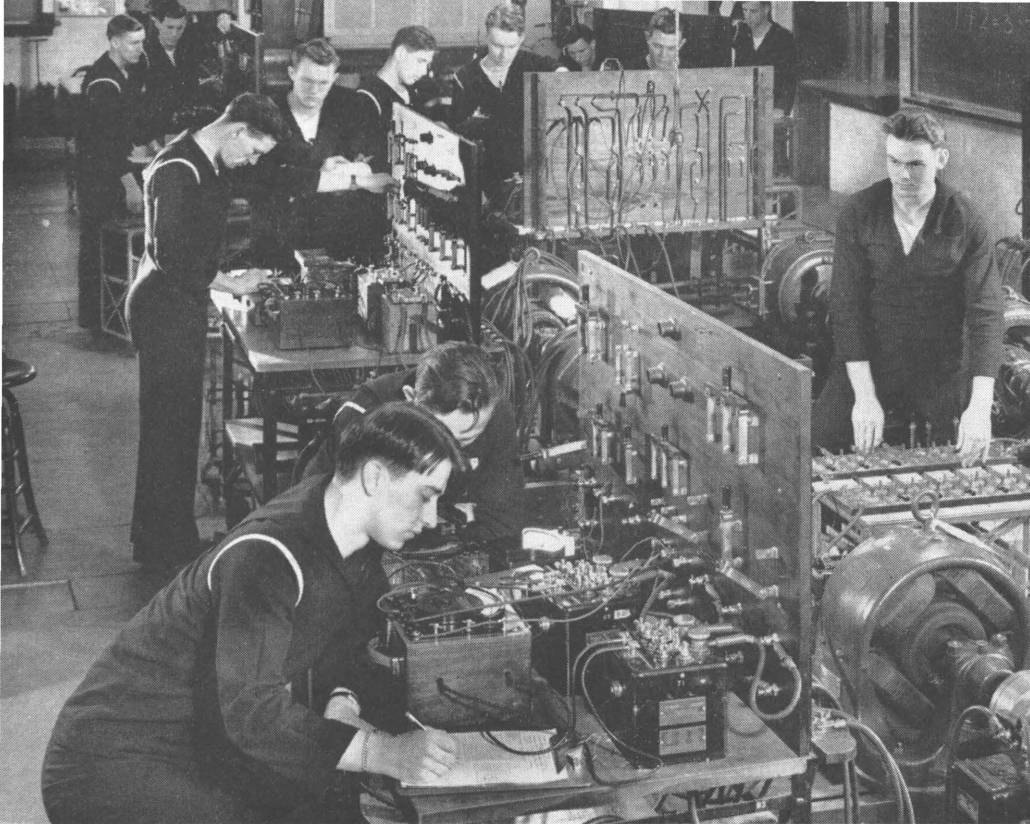
The College was one of seven participating in the training of young women for work in the engineering department of the Curtiss-Wright airplane corporation. Iowa State was assigned 101 young women from thirty-four states.

They lodged and boarded in the Union. The course, of college grade, extended through two terms of five months each (February–December, 1943). Of the original contingent 90 were graduated, 6 withdrew before entering upon active duty, and the remaining 84 along with the some 500 trained elsewhere met competently a skilled labor need in a key war industry. Shortly before (September, 1942–April, 1943) an aircraft machinists' school had trained a class of twenty-two specialists.

Due to the delay in determining and formulating the principles and procedures in the training of officers for the services, the regular collegiate training programs were considerably delayed. The naval collegiate V-12 instruction began July 1, 1943, with some eight hundred cadets. The navy sought basic training in the main divisions of the service as a foundation for intensive officer training, with but two technical courses required. The Iowa State contingent was selected from those with engineering preference.

The intent and in the main the practice was to follow established academic procedures and traditions. Classrooms were free from military regulations and trainees were allowed and encouraged to engage in all forms of student activities. Two of the trainees were elected president of the student body. The V-12's were housed in womens' dormitories until Friley Hall was vacated by the special groups. The program was continued through the war into the peacetime NROTC. The naval training programs marked a major extension of conformity to the military prescription of the land-grant act, which had hitherto been associated with the army.

The College's first group of the army training program (ASTP) consisted of the students in Veterinary Medicine



V-12 Naval Training unit in engineering during World War II — one of the many areas in which Iowa State College participated with specialized training to an even greater extent than had been true in World War I. The V-12 Naval Training Program began in July, 1943, and ended in June, 1946, when the last V-12's graduated.

whose induction was hastened in June, 1943, to meet an urgent need. The regular curriculum had been taught to 220 veterinarians by the end of the training in August, 1944. They were lodged in fraternity houses and fed in Roberts Hall.

The main army unit started class work in September, 1943, and continued until March, 1944, when it was rather precipitously terminated. A limited ASTRP corps was continued. The army planners sought as far as possible under the conditions to set up regional military institutes

in discipline, curriculum, and living. Courses and activities had at least to be rationalized as contributing directly to the training of officers. This objective proved disappointing as, by reason of larger training centers, the opportunities for commissions were greatly restricted.

An air pilot training program for civilians was started in 1939 by the department of mechanical engineering and was taken over by the new aeronautical department in June, 1942. To provide more adequate flying facilities, the Ames municipal airport was established in April, 1942. In January, 1943, the naval flying service inaugurated its V-5 flying training which continued until July, 1944.

/ Research and extension were no less concerned with the war effort than was resident teaching. While maintaining essential long-time projects, the Agricultural Experiment Station, handicapped by the absence of key men in the armed services or in special war research, centered its main efforts on investigations of direct application to the emergency. Typical examples were food drying and storage projects, more especially the dried egg cooperative research under the direction of George F. Stewart, the emergency production and processing of flax and hemp, and the breeding of waxy corn as a substitute for tapioca. The bettering and extending of farm mechanization was stimulated by the labor shortage. Studies in marketing, finance, and consumption were no less significant for the war economy. The engineering station gave timely assistance to industries engaged in war production.<sup>1</sup>

Usable findings of the agricultural station reached the farms directly through the highly organized Agricultural Extension Service. To supplement the labors of the county directors and the home economists in securing the fullest pos-

sible compliance, thousands of volunteer leaders were recruited — one man and woman for each four square mile area — who undertook to keep their neighbors informed on all phases of the common undertaking. Home economists emphasized not only the preservation and economical use of food, clothing, and household equipment, and the cultivation of victory gardens, but also efficient farm management and operation by women as well. Club work stressed informed citizenship and increased direct participation in production. To these efforts might be attributed an appreciable influence for the complacent report in 1943 that, “never before have so few people produced so much food.” The service was no less effective in organizing rural communities for war drives and in maintaining morale.

The Engineering Extension Service conducted well attended short courses in safety, civilian defense, conservation, and war production.

#### ► OUTSIDE FUNDS SUPPLIED

The regular research programs of the stations were supplemented by projects sponsored and financed by outside agencies. One series — on governmental policies affecting the production and distribution of food — was under T. W. Schultz, head of economics, and three colleagues with established reputations in finance, agricultural policy, and consumption economics. The findings were listed as Agricultural Experiment Station projects, but they were not reviewed or sponsored by that agency. The studies were published by the College Press, but again without review normally carried on by the presidentially-appointed manuscript committee.

Several of the pamphlets were controversial, especially in



the realm of economic theory, but the all-out attack was centered on "Pamphlet No. 5," *Putting Dairying on a War Footing*, by an able and enthusiastic young research associate, Oswald W. Brownlee. Arguments were presented showing the desirability of increasing the proportion of milk going to the fluid milk market. The author also concluded that the legal restrictions (sponsored by a dairy pressure group) which interfered with the use of oleomargarine were not in the best interests of the consuming public. Additionally, Brownlee commented that there was little scientific justification for some sanitary regulations which he regarded as overly restrictive. And on the basis of his study, he felt that "margarine compares favorably with butter both in nutritive value and in palatability," and from the standpoint of the consumer's pocketbook made an acceptable substitute for butter.

Representatives of the main dairy groups moved upon the campus with alacrity. There was demand not only for the official repudiation of the document, but also for the immediate dismissal of those directly responsible — the author and the editorial committee of the "Wartime Farm and Food Policy Series." A conference with college officials including dairy and nutritional specialists led to an agreement for a joint committee investigation and report in place of such drastic direct action. The conclusion by this committee of dairy representatives and staff subject specialists appointed by the president was that certain statements were "either incorrect, or susceptible to misinterpretation, or inadequately documented as to fact." The committee recommended a thorough substitute revision. Such a revised edition was issued in the spring of 1944. The main alterations were in more balanced emphasis upon the central theme of more

economical utilization and more efficient distribution, together with an authoritative documentation on points made.

Meanwhile, in September, 1943, Professor Schultz in a letter of resignation had caustically criticized administrative policies for the social sciences, with vacillation on Pamphlet No. 5 as only one point. He predicted that leading members of his department would soon follow his example in leaving if corrections were not speedily made, because "They cannot stand much longer the uncertainty and the demoralizing atmosphere that now exists." On the specific consideration of pressure groups, he asserted: "We also need to recognize at this juncture that throughout the history of the institution many faculty members of the Iowa State College have not distinguished between the interests of particular agricultural groups in the state and the general public interest. The failure to have served, first and foremost, the general welfare of the state and nation has quite understandably created expectations that the facilities and faculty of Iowa State College were primarily here to serve agriculture in ways prescribed by the organized pressure groups in agriculture regardless of the effects of what was done upon the welfare of the public generally. To have this traditional relationship challenged has been a severe shock to the agricultural groups. Protests are likely to continue until the administration and members of the Iowa State College faculty can demonstrate that an institution of higher learning such as this has a more important role to perform . . . . The success of pressure group tactics in accomplishing objectives contrary to the general welfare largely arises out of their ability to concentrate their power and intimidate an individual officeholder. An orderly procedure for faculty participation in policy decisions regarding scholarship, research, con-

ditions of tenure, and publication policies should be worked out at once. This procedure and the relation of the President's office to it should be carefully explained to all special interest groups having relations with Iowa State College."

These heated charges involved a somewhat confusing intermixture of conflicting policies and personalities. Friley replied with dignified restraint. He expressed appreciation of Schultz's services and regret at his departure. As to the alleged restrictive designs, he denied any intent to limit or divide the work of the department, but, on the contrary, gave full assurance of his purpose to support and advance its program of teaching and research in all appropriate areas. This much-publicized controversy over subsidized research involved by no means a clear-cut case of freedom to publish. But it gave warning of the danger of interference by special interest groups and the consequent necessity for a responsible and defensible policy of publication.

#### ► SIGNIFICANT ROLE

In addition to research in areas of peculiar concern and responsibility, the College was destined to have an essential part in the most spectacular and determinate scientific advance of modern time, if not of all time. When the crucial decision was made to demonstrate the unloosing of nuclear energy, regardless of costs and consequences, the first consideration was to select the scientists and the most strategic centers for their experimentation. As the historian of the scientific contribution to the war effort, James P. Baxter has declared, the requisite for the mobilizing of science for war is "first-rate scientists" with "ample funds and a large measure of freedom." Such was the motivating idea in the so-called "Manhattan District" project, and it was a rare trib-

ute to the standing of the basic work in science at Iowa State College that it should have been regarded as meeting this test.

In February, 1942, Arthur H. Compton, director of the Chicago center ("Metallurgy Laboratory") asked Frank H. Spedding, of chemistry, to undertake a small project at Iowa State. This project involved basically the economical preparation of pure uranium. The method developed at the College, in what became a major undertaking, led to the large scale output of the essential metal. Further important services were the economical separation of plutonium and the designing of machines for the production of atomic energy.

Spedding, who divided his time between the correlated projects at Chicago and Ames, secured the services of his Iowa State associates, Harley L. Wilhelm and Iral B. Johns as assistant directors. Dean Gaskill, as head of the Industrial Science Research Institute, handled the exacting administrative adjustments. More than five hundred scientists and skilled technicians were employed in the improvised plant, two small frame buildings on the eastern edge of the main campus, popularly termed "Little Ankeny," in comparison with a huge war industry a few miles to the south.

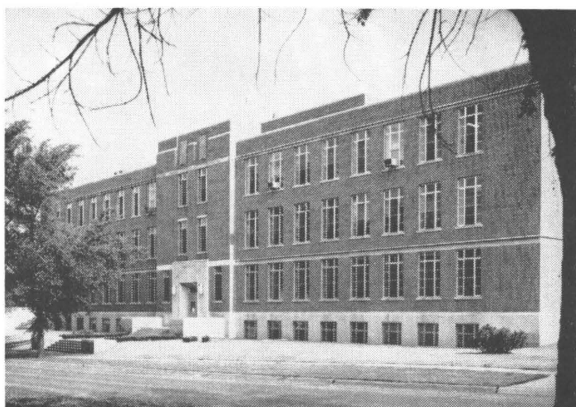
So distinguished was this contribution to the production of the weapon which decisively hastened the end of the war that the project "was awarded the Army-Navy E flag with four stars, signifying two and a half years of excellence in industrial production of a vital war material. In addition the Ames project was mentioned as one of the four outstanding university atomic bomb projects in the report of Secretary of War Stimson."

In the midst of a mobilized campus, with a larger mili-



"Little Ankeny" was an unimposing structure which earned itself a world-wide reputation. It originally was built as a temporary Home Economics Building west of Home Economics Hall in 1920. In 1926 it was moved to the east side of the campus and used at various times as a women's gymnasium, garage, popcorn lab, and storage building. But during World War II it was converted to highly scientific service, and the operations at "Little Ankeny," as it was known because of the nearby Ankeny ordnance plant, produced more than 2,000,000 pounds of uranium. For a time this plant on the Iowa State campus was the leading producer in the nation.

Following World War II and with the completion of such imposing structures as the Metallurgy Building (U. S. Atomic Energy Commission) built in 1949, "Little Ankeny" was dismantled, literally board by board, so that proper disposal could be made of all contaminated materials.



tary than civilian enrollment, the regular academic program went forward with surprisingly small break. The teaching burden was doubled with the added service curricula and the shortage of instructors. By the spring of 1945, one hundred and seventy staff members had been called to active duty in various branches of the war effort. Their campus duties were assumed by remaining colleagues, supplemented by such aged and otherwise exempted educators as could be secured in a highly competitive market. There was also a transfer of versatile talents from departments of lessened demand to those of congested enrollments.

For all it was a hectic experience of devising and adjusting the varied curricula and time schedules of army, navy, and civilians. The service extended continuously around the clock, whether by standard or naval reckoning, with no break except for the sabbath. Even Thanksgiving and Memorial Day saw classes as usual. They also served who only stood and taught.

Civilian students were very conscious of the obligation to do their bits. A student war council was organized in 1942 and carried on valiantly and vigorously for the duration. It spearheaded collections of paper, scrap, and clothing; bond sales, and drives for the Red Cross and USO. The council helped to organize Red Cross classes and black-out demonstrations, served in USO centers and canteens, and worked in college gardens. In both work and recreation the council sought, at all times, to maintain civilian and military morale. As a stimulus to this vital objective, council and staff encouraged inspirational war lectures, especially by direct participants and observers, and also discussion forums with free for all interchanges. Dissident ideas found outlet here as well as in letters to the *Student*.

Athletic competition, for the time being, was strengthened by the redistribution of talent which the training programs occasioned. The services, within reasonable limits, encouraged participation. Eligibility rules were liberalized; the government did the recruiting and coaches were free to use — within time and travel limitations — whatever skill came their way. The drawback was in the fluctuating personnel, as experienced or potential lettermen came and went at short notice. But in the main the College, with its large contingents from different regions, fared so well from the contributions of the barracks that its football fortunes came from a period of decline into one of notable successes.

#### ► COEDS IN KEY POSTS

The shortage of civilian men gave the coeds their day of leadership in campus affairs. Women boards and staffs took over the publications, dramatics, and debates, arranged for lectures and forums, and managed the social program. They even ran the adapted Veishea observance.

In spite of multiple schedules, military discipline, and improvised housing and boarding, campus life in its main features persisted with remarkable continuity. And in spite of the far greater size and length of the involvement, a blessed contrast in the general conditions of living and training in the second world conflict over World War I was in the freedom from any outbreak of disease such as the influenza plague. On the contrary, health conditions were remarkably good and sickness occasioned no interruption of the program at any stage. Such a favorable showing was due in no small degree to the advances in nutrition, sanitation, and immunization which every modern war has registered over the preceding.

Meanwhile on all fronts and in varied branches of service, more than 6,800 former students had been in action and more than 350 had given their lives to the national cause.

Such a total and all-demanding conflict was destined to have far-reaching effects upon education as upon all aspects of life. And upon no other institutions of higher learning did this responsibility for rethinking and readjusting come with greater force than to the land-grant institutions with their peculiarly direct public relationships. For this representative member of the group, the war years had been by no means a period of mere adjustment to the immediate emergency. Instead, the demands of the crisis had shown the need for reappraising values and integrating knowledge. Each division was carrying on searching curricular studies, with a reconsideration of objectives and the means of their realization. The need for unifying and liberalizing came to be generally recognized. War methods in instruction and testing were found to have permanent significance, especially for the impending mass education. The central problem of the post-war era was recognized to be the training of the largest educable number — and most immediately the returning veterans — with adapted curricula, competent staff, and progressively expanding plant.

In the shadow of the global cataclysm and the continuing disruption, it was no less recognized that while the training was contributing to the security of an embrangled world, it was at the same time under compulsion to give rational exploration and appraisal of the possibilities, means, and conditions of an enduring peace.